What is the value of a forest?

Bruce Manley

Determining the value of a forest has long been a vexed issue for plantation forestry in New Zealand. Particularly so as knowledge of the market value of a forest, whether it be for the purpose of reporting or for sale or purchase, is a fundamental for forest management and investment. The consequences of reporting or paying an "inappropriate" value for a forest can be both major and irreversible.

In the 1970s and early 1980s there was a perception that the value of the Kinleith forests reported by N.Z. Forest Products was too low. Some held the view that the reported value of the forests was set low to ensure that the reported return on assets was reasonable.

Perceptions that there were opportunities to realise the potential value of these forests led, in 1983, to Watties buying shares in N.Z. Forest Products with the aim of taking over the company. This was the start of a convoluted and sometimes incestuous process involving companies such as Rada, Prorada, and Elders Resources that ultimately led, in 1990, to Carter Holt Harvey acquiring the N.Z. Forest Products estate.

Since 1990 there has been much debate about the value of Kaingaroa Forest (together with associated Rotoehu and Whakarewarewa Forests). In 1990 the Government rejected bids ranging from $837 to $975 million for NZ Timberlands (Bay of Plenty). The bids from Fletcher Challenge, Carter Holt Harvey and Elders-NZFP fell short of the Crown minimum value of $1250 million[1].

In 1996, the company was sold to the Central North Island Forest Partnership (CNIFP) of Fletcher Challenge, Citic and Brierley Investments for $2026 million. In March 2001 the CNIFP was put into receivership by banks that had lent money to finance this acquisition. Currently, a number of parties are seeking to purchase the CNIFP out of receivership. The receivers reportedly have an asking price of $1500 million (US$640 million).

So why has the market value of Kaingaroa Forest gone from under $1250 million in 1990 to $2026 million in 1996 to $1500 million or less in 2002? One obvious reason is that the forest has changed over time. The age-class distribution and associated maturity, as well as the species composition have changed. Log prices have also not remained constant between 1990 and 2002.

However there have also been other important factors that have affected the value. In 1990, and also in 1996, the Tasman wood supply contracts imposed constraints on the markets and prices for logs from the forest.

In 1996 the reported price of $2026 million was very close to the book value of the forest ($2024 million), an important consideration for the Crown, as seller, in an election year. Potentially, purchase of the forest gave Fletcher Challenge the opportunity to utilise accumulated tax losses relating to their energy business. The anticipated tax benefits meant that the net price of the sale was expected to be much less than $2026 million from both the perspective of the CNIFP and the Crown. (Because the CNIFP did not subsequently make the expected profits, it did not get the anticipated tax benefits. This is a good example of how forest value is based on expectations at a particular point in time. Changes in markets and other factors can, in hindsight, make the price paid for a forest appear to be too high or too low.)

In 2002 a critical factor in setting the selling price for Kaingaroa Forest has been the level of bank debt that is owed. The banks are apparently reluctant to accept less than the level of debt. This is partially for fear of the impact that a lower price would have on the value of other forests to which they also have exposure, but also for the pragmatic reason that the secured lenders want their capital returned in full. Whether the receivers manage to sell the forest for $1500 million remains to be seen.

The biggest obstacle to the valuation of a forest in New Zealand, whether it be Kaingaroa Forest or some other smaller forest, has been the limited number of transactions on which to base a market value. This was evident in 1990 when the State plantations were put up for sale using the sealed bid process. Uncertainty about the value of the forests together with a view that the Government would accept 'fire sale' prices led to low bids. Consequently not a single bid was initially accepted by the Crown. Rather the two most attractive bids, those by Fletcher Challenge for Nelson forests and Ernslaw One, were renegotiated to make them acceptable to the Crown. These two sales provided the basis for the other 10 negotiated sales in 1990 as well as the sale to ITT Rayonier in 1992.[1]

As a consequence of the transaction activity in the early 1990s the valuation of plantations for sale and purchase purposes, as well as for asset reporting, was becoming increasingly significant. With many members involved in the valuation of plantations, the NZIF recognised the importance of consistency in valuation methodology and the need for a high standard of reporting. Consequently the NZIF Forest Valuation Working Party was established in 1993.

The NZIF Forest Valuation Standards were released in 1999, after a process involving exposure drafts and consultation, and have received widespread use in New Zealand and also in Australia. Initially the main users were forestry consultants but more recently they are being adopted by the corporates. The change in valuation methodology (to report market value based on discounted cashflows) by Fletcher Challenge Forests in 2001 reflects this.

The Standards do not prescribe a mandatory "recipe book" approach to forest valuation with fixed major

[1] see *Out of the Woods* by Birchfield and Grant, GP Publications, for details.

New Journal Editor

Dr Bruce Manley has been appointed Editor of the New Zealand Journal of Forestry. Bruce is Associate Professor of Forest Management at the School of Forestry. Prior to 1999 he was a scientist and research manager at the New Zealand Forest Research Institute.

Bruce has previously been an NZIF office-holder – he was a Councillor from 1990 to 2000 and Registration Board Chairman from 1990 to 1998.

He will be supported by an Editorial Board consisting of Hugh Bigsby, Piers Maclaren, Euan Mason and Colin O'Loughlin.

parameters (such as discount rate and log prices). Rather the emphasis of the Standards is on disclosure. The nature of forest valuation is such that valuers will always have to use judgement and experience. The Standards were developed to ensure that consistent methodology is applied and that assumptions are justified and documented.

The focus of the NZIF Forest Valuation Working Party has now shifted to providing guidance to members as they apply the Standards - for example information about discount rates, log price assumptions, taxation effects, and the treatment of land. This edition of the Journal provides a "bring-up" on forest valuation and contains a compilation of relevant papers to assist practitioners, as well as a review of current issues in forest valuation from a number of perspectives.

The lack of a fully functioning market for forests is still the greatest obstacle to forest valuation. As observed by the writer when he carried out a survey of discount rates in 2001 "In some ways the New Zealand market for forests is a case of chicken-and-egg. There are insufficient transactions to provide different parties with confidence about what the 'market' discount rate is. Because there is no definitive 'market' discount rate, the parties are unable to agree on a market value for forests and so there is no transaction."

The difference in expectations between buyers and sellers was highlighted after the establishment of the New Zealand Forestry Exchange in 1994 to act as a broker in forest sales. With sellers typically valuing forests using discount rates of 7 to 10%, while buyers used 11 to 14%, the seller's reserve price was always well above the buyer's maximum offer. The asymmetry in the tax system whereby the seller's profits on the sale of a tree crop are taxable whereas the purchaser cannot generally deduct the cost until the time of harvest also added to the gap between buyer and seller. Consequently the Forestry Exchange was short-lived.

Forestmarkets.com was founded in January 2000 and specialises in marketing commercial forests. The company, like the Forestry Exchange before it, has experienced the difficulty of getting common agreement on forest value between vendors and purchasers and their advisors. The difference between the vendor's expectation and the bids offered is often substantial, even for well-marketed plantations that are well described.

As reported in this issue by both Mike Colley and Bill Liley, the market for forests is still very thin with an average of about five transactions per year of forests of over 1000 ha. Those few transactions that occur get detailed analysis (as far as the details are known) and are added to the databases of forestry consultants.

However there are many more transactions on the secondary market - last year there were over 100 units in forest investments sold by promoters on the secondary market. The difficulty in using this information is that the secondary market is segmented with each investment company operating its own market. Transaction information is not publicly available.

What then of the future – how can the NZIF help the development of a transparent market for forests in New Zealand? One role for the NZIF would be to encourage promoters to make information on their secondary markets publicly available. To enable comparability, information would have to be reported in a standard format – for example, the discount rate implicit in a sale (assuming standard log prices) would need to be reported. The NZIF could collect and publish these transaction data.

The Forest Valuation Standards contain a definition of market value as *"the amount for which the defined good or service should exchange*

- *On the date of the valuation;*
- *between a willing buyer and a willing seller;*
- *in an arm's length transaction;*
- *after proper marketing; and*
- *wherein the parties had each acted knowledgeably, prudently and without compulsion."*

Given the limited number of arm's length transactions that take place, it is important that those transactions that do take place are publicly reported in a comparable way. Such information is vital for parties to act knowledgeably and an active market for plantations to develop in New Zealand – such a market is a necessity for the reputation and well-being of the forestry sector.